# SOFTWARE - Bug # 1959: SLF5 issues

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| **Status:** | New | **Priority:** | Normal |
| **Author:** | Robert Hatcher | **Category:** | |
| **Created:** | 10/04/2011 | **Assigned to:** | |
| **Updated:** | 10/04/2011 | **Due date:** | |

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|---|---|
| **Subject:** | SLF5 issues |
| **Description:** | Anna Holin reports that there are some problems moving to SLF5 with older releases for two cases: |

/minos/app/annah1/dogwood1daikon07_final

base release:  S09-07-10-R2-00

test release pkgs:  BeamMegaFit, Conventions, MCReweight, NugentInterface

/minos/app/annah1/Griffin_Production_v00  (used for official nue file production)

base release: R2.0.1

test release pkgs:  Conventions, DataUtil, Mad MCCNNAnalysis, NueAna

An initial look at these seems to indicate two issues:

* using the gcc 3.4.3 compiler w/ the native linker

* problems with an installation of "boost"

## History

**10/04/2011 02:17 pm - Robert Hatcher**

*- % Done changed from 10 to 20*

Re: "boost"

on minos-slf4 one has /usr/include/boost/version.hpp   ( 103200 == 1_32_0 )

minos-slf4$ rpm -a -q | grep boost

boost-devel-1.32.0-1.rhel4

boost-1.32.0-1.rhel4

minos27$ rpm -a -q | grep boost

boost-1.32.0-7.rhel4.x86_64

boost-devel-1.32.0-7.rhel4.x86_64

minos50$ rpm -a -q | grep boost     # SLF5 node

<nada>

possible solution:

   install boost in relevant externals v0x?? (INSTALLATION)

   same version, vs. what RPM can supply on SLF5

/grid/fermiapp/minos/products/prd/MINOS_EXTERN/Linux2.4-GCC_3_4/v03

   seems to have have boost-1_34_1 installed ... why isn't this good enough?

does a MINOS package using boost need -I added somewhere in GNUmakefile?

works on minos-slf4 due to system area?

**10/04/2011 02:33 pm - Robert Hatcher**

*- % Done changed from 20 to 30*

Re: compiler/linker mismatch

errors look like:

```
<**building library**> libNeugenInterface
`.L1798' referenced in section `.rodata' of
$testrel/tmp/Linux2.6-GCC_3_4/NeugenInterface/libNeugenInterface-shared/NeugenInterfaceCint.o:
defined in discarded section `.gnu.linkonce.t._ZN10init_state9as_stringE15init_state_enum' of
$testrel/tmp/Linux2.6-GCC_3_4/NeugenInterface/libNeugenInterface-shared/NeugenInterfaceCint.o
```

Numerous changes were made to CVS circa 2011-03-23 w/ log messages of the form:
```
Changes for gcc 3.4.3 used w/ ld 2.17 (vs 2.14) as found on SLF5.
For this combination large-ish switch statements in inline methods
(usually involving character constants) cause errors of the form:
  referenced in section `.rodata' myfile.o defined in discarded section
during library linking stage.  Moving these methods to the implementation
side (i.e. non-inline) resolves the issue; any degradation due to
the loss of inlining should be very minimal.
```

**10/04/2011 02:57 pm - Robert Hatcher**
Re: dogwood1daikon07_final

```
  setup_minos -r S09-07-10-R2-00
  cd /path/to/test/release/dogwood1daikon07_final
  srt_setup -a
```

fix "boost" issue by:
```
  cd $SRT_PRIVATE_CONTEXT/BeamMegaFit
  cvs update -dPA GNUmakefile
```
this picks up "boost" installed in $INSTALLATION (MINOS_EXTERN v03) for include + lib

fix "compiler/linker" issue by:
```
  cd $SRT_PRIVATE_CONTEXT/NeugenInterface
  cvs update -dPA init_state.h init_state.cxx
```
will move the offending switch statement from the @.h@ to the @.cxx@ with no other changes.  There are a number of other changes to this package that should probably be taken (and probably don't change behaviour) in: @GNUmakefile LinkDef.h deduce_fate.F inuke_reweight.F neugen_config.h neugen_wrapper.h neugen_wrapper.cxx@.  Users should review these changes in consultation with experts.

With these
```
  cd $SRT_PRIVATE_CONTEXT
  gmake
```
builds without errors (though a few minimal warnings).  As a reminder, users should ignore all messages of the form:

```
/usr/bin/ld: skipping incompatible /usr/lib64/libc.so when searching for -lc
/usr/bin/ld: skipping incompatible /usr/lib64/libc.a when searching for -lc
```

**10/04/2011 03:32 pm - Robert Hatcher**

Re: Griffin_Production_v00

```
  setup_minos -r R2.0.1
  cd /path/to/test/release/Griffin_Production_v00
  srt_setup -a
```

all the problems are of the compiler/linker mismatch issue and can be resolved using the prescription:

```
  cd $SRT_PRIVATE_CONTEXT

  addpkg CandSubShowerSR
  cd $SRT_PRIVATE_CONTEXT/CandSubShowerSR
  cvs update -dPA ClusterType.h ClusterType.cxx

  cd $SRT_PRIVATE_CONTEXT/NueAna/Reweight
  cvs update -dPA NueRW.h NueRW.cxx
```

One needs to add the @CandSubShowerSR@ package in order to pick up the change to @ClusterType@ used by CVS HEAD.

**10/04/2011 03:34 pm - Robert Hatcher**

*- % Done changed from 30 to 90*

The above fixes should be sufficient to get these releases working again under SLF5.  If Anna could try them out and sign off then we can close out this report.